

CHAPTER THREE

Potential Environmental and Community Issues

INTRODUCTION

The purpose of this Chapter is to provide an overview of the potential environmental and community issues related to the development of the WCC. The Chapter seeks to first identify those resources and areas that may present a fatal flaw to the WCC project and offer recommendations about possible avoidance and mitigation of these issues. The next step is to identify specific environmental resources in proximity to the potential corridor alignments that may be affected by the WCC project. Following this, a discussion of environmental review and permitting provides recommendations of more efficient and streamlined strategies in performing the environmental review and permitting of the WCC.

The second major component of the chapter is a review of the potential community issues that could be affected by the WCC. This includes the identification of specific issues and land uses that may be impacted by the project, an overview regarding the consistency of the WCC with Washington's Growth Management Act (GMA) and county comprehensive plans, and a community-based economic analysis highlighting the benefits and costs of the WCC to the affected communities of Washington State.

Both components were evaluated along a 5 mile wide, north/south aligned corridor. This assessment area was chosen in response to the Washington State Legislative initiative to study the possibilities of locating a north/south aligned commerce corridor in the region west of the Cascade Mountains. A 5-mile corridor is sufficiently broad to allow for a thorough survey of issues that may be encountered should the WCC continue into the planning stages.

It is important to note that this study has received considerable public comment. Though varied in its exact nature, much of the feedback can be summarized into the following major areas:

- Impacts/costs to the natural environment and wildlife
- Quality of life concerns
- Fear of uncontrolled growth and sprawl along the WCC alignment
- Possible loss of private property and subsequent dislocation of families, businesses, and small towns
- Possible loss of a valuable natural area

This chapter does not address these areas in a comprehensive manner. However, it does organize across these general themes and introduce concepts for further study as deemed necessary.

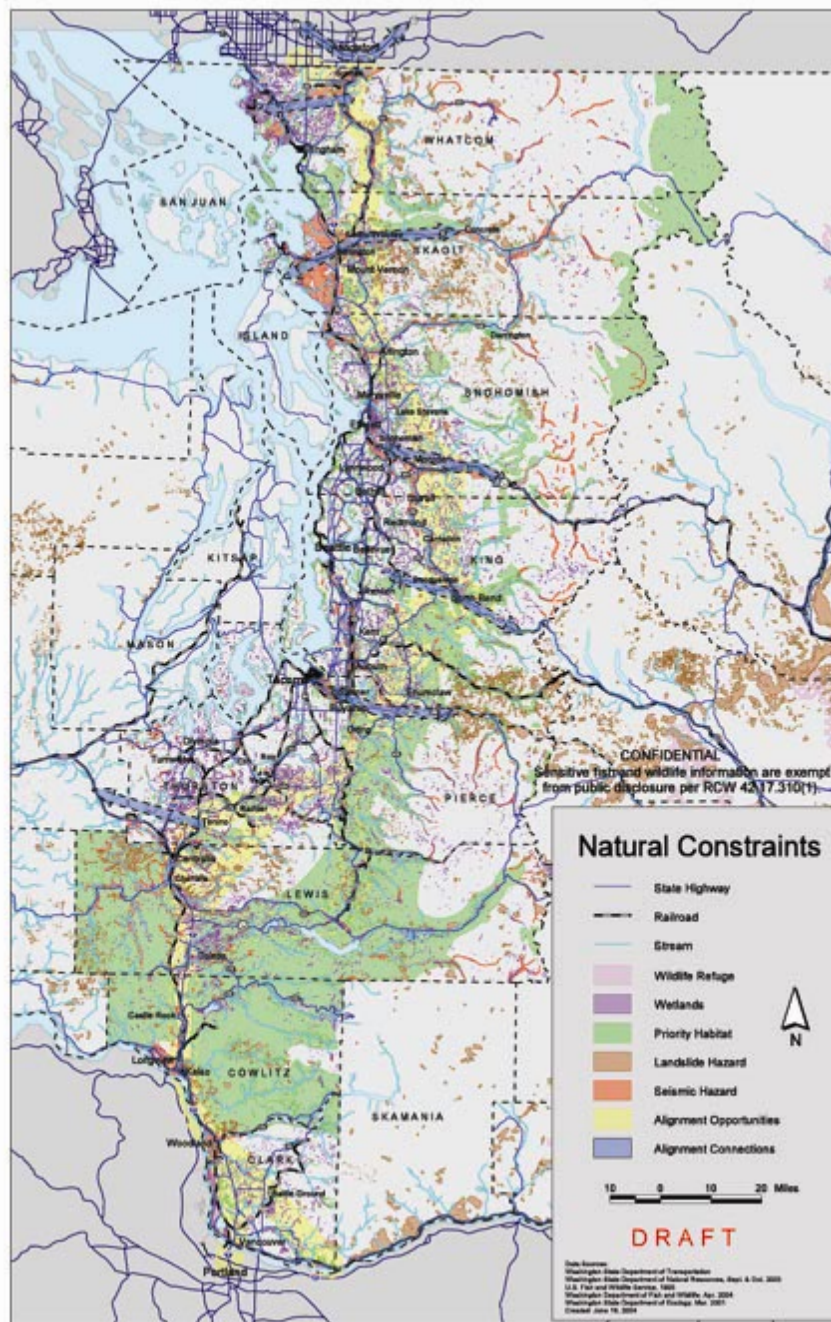


Potential Fatal Flaws

During the course of the analysis, effort was made to identify specific areas and resources that may result in a fatal flaw to the WCC project. These issues and resources would be situations where the current protection level, uses, and mitigations costs (if the corridor would be located in/around them) would force the abandonment of the WCC in that area and would result in categorizing the route as unfeasible. Segments of the potential WCC area pass through federally-protected lands and species habitat, in addition to areas where current zoning and uses would be in direct conflict with the corridor. However, many of these areas/resources could be bypassed or avoided by locating the corridor where impacts to these resources would be mitigated or would be recognized as negligible or non-existent.

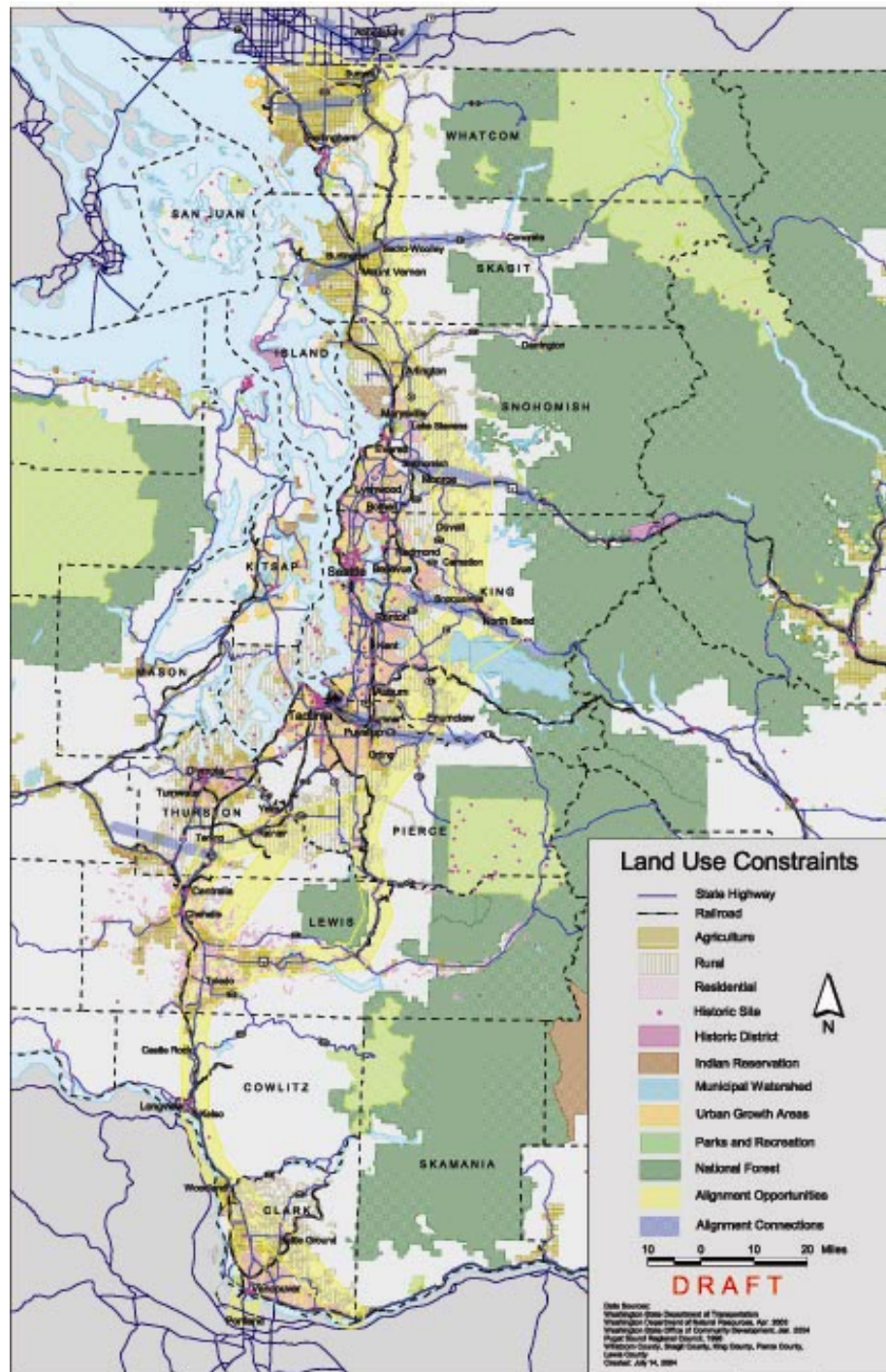
Only one major resource was identified that would significantly decrease the feasibility of a corridor route and where any mitigation efforts and costs would outweigh any potential benefits the WCC may offer. This resource is the Cedar River Watershed, which supplies the drinking water to approximately 1.3 million people in the Seattle area. One alternative 5-mile wide corridor area passes through 30,605 acres (48 square miles) of this municipal watershed. This represents 34 percent of the watershed's approximately 90,000 acres, although an actual alignment would encompass a much smaller area. The potential impacts to this area from the development of a regional transportation system such as the WCC would be significant and represent a fatal flaw for this section of the corridor. The selection of an alternate route, such as the one located to the west, would be necessary (see Exhibit 3-2).

Exhibit 3-1*: Natural Constraints



* This map is shown for illustrative purposes only- larger copies are available by request from WSDOT
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Exhibit 3-2*: Land Use Constraints



* This map is shown for illustrative purposes only- larger copies are available by request from WSDOT
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Potential Environmental Issues

The 5-mile wide WCC area crosses over 2,297 square miles of land from Vancouver, WA to Sumas, WA (see Exhibits 3-1 and 3-2). Beneath this corridor footprint lie abundant natural resources that could influence the overall feasibility of the corridor. The following discussion provides a general overview of the potential impacts to key natural resources of western Washington. To facilitate the discussion, the corridor itself is broken up into three main sections that include three counties in each section.

- Section A includes Whatcom, Skagit, and Snohomish counties and includes a corridor footprint area of 593 square miles, or roughly 26 percent of the total potential corridor area.
- Section B includes King, Pierce, and Thurston counties, and includes a corridor footprint of 864 square miles, or approximately 38 percent of the total area.
- Section C includes Lewis, Cowlitz, and Clark counties, and includes a corridor footprint area of 840 square miles, or 36 percent of the total WCC area.

The potential corridor area identified for testing the project's feasibility for this specific study is 5 miles wide; this represents a footprint over 35 times the width of the actual maximum alignment width of 710 feet identified in "*Chapter Two, Definition of Project Features*" for all the uses of interest. This was done to identify additional potentially affected resources and communities in addition to offering options and flexibility in locating an alignment within the corridor that would decrease the impact to a given resource or area. The corridor area does not represent any actual or final potential alignments.

The analysis in this section provides a broad overview of the types of resources that may be impacted by the proposed WCC and generally quantifies the overall magnitude, extent, duration, and probability of impacts on these resources. This exercise only represents an initial step in the process; further study would be necessary to determine additional site-specific impacts and resources and to quantify these impacts and their influence on the overall corridor's feasibility.

Natural Constraints Identified

To determine the influence of natural resources on the overall feasibility of the WCC, specific natural constraints must first be identified that provide examples of key resources and issues that could be impacted by such a project. The following list of natural constraints has been identified for this analysis and provides a starting point for additional in-depth study. While the following list does not represent a comprehensive catalogue of the natural resources of western Washington, it does allow for a general measurement of the overall impact to corridor feasibility. The identification and location of natural constraints in relation to the corridor area may be found in Figure 1.

- Streams
- Wetlands
- Priority Habitat
- Landslide Hazards
- Seismic Hazards
- Wildlife Refuges

The measurements of the constraints listed above consist of percent cover estimates based on Geographic Information System (GIS) layers obtained from key agencies and affected counties in Washington State. The intent is to provide a general level of impact that the corridor would have on any given resource. Further study could identify specific levels of impacts on a given resource based on individual modal components of the proposed corridor to provide a comparison of the impacts' influence on specific component feasibility.

Natural Constraints Measured

Streams

As a result of the unique hydrology of western Washington, numerous streams and rivers cross the area covered by much of the proposed corridor. These areas provide critical habitat for a vast number of species, supply water to the people of Washington, and offer numerous recreational opportunities for many individuals.

To determine a general level of impact from the proposed WCC area, the numbers of stream crossings were identified for each corridor section. Stream crossings are one indication of the potential impacts a project such the WCC would have on shoreline and aquatic resources in proximity to these crossings. The data identifying the streams was developed by Ecology under the Shoreline Management Act of 1971 and includes streams with a mean annual flow greater than 20 cubic feet per second (cfs). The coverage was published in April of 1994.

The WCC would potentially cross a total of 177 streams in the effected areas of western Washington. This includes 46 potential crossings in Section A (Whatcom, Skagit, and Snohomish), 75 potential crossings in Section B (King, Pierce, and Thurston), and 56 crossings in Section C (Lewis, Cowlitz, and Clark). As with other resources in this study, potential impacts to streams from WCC construction would be directly correlated with the type of mode or utility chosen for a given area. In some cases, it would be possible that only one or two of the modes would be chosen, therefore changing the potential impacts to those effected streams. For example, transmission lines may have considerably less impact to a stream than a pipeline in terms of both construction and maintenance. In any event, without avoidance and mitigation, the potential for adverse impacts on streams is substantial.

Wetlands

Wetlands are generally defined as lands where saturation with water is the dominant factor determining soil development and the types of plant and animal communities living in the soil and on its surface (Cowardin, December 1979). Wetlands serve as a significant food source for numerous animal species. In addition, they provide humans with natural water quality improvement, flood protection, and shoreline erosion control. Wetlands are protected by regulations such as Section 404 of the Clean Water Act and are regulated and permitted in Washington State primarily by the Army Corps of Engineers and Ecology.

The National Wetlands Inventory (NWI) classifies wetlands using the Cowardin Classification System. This includes the five main classifications, Marine, Estuarine, Riverine, Lacustrine, and Palustrine. The types of wetlands are then divided into subsystems based on substrate, flooding regime, dominant vegetation, and specific plant and animal forms.

The 5-mile wide corridor area encompasses a total of 102,109 acres of wetlands. The potential area of the WCC includes 22,903 acres of wetlands in Section A, or roughly 6 percent of the total corridor area in Section A. Section B includes 33,766 acres, or approximately 6 percent of the total area in Section B. Section C includes 45,440 acres of wetlands, or 8 percent of the total area in Section C. The breakdown of wetland type in each section is provided in Exhibit 3-3.

Exhibit 3-3: Wetland Types in Corridor Area by Section

Corridor Section	Wetland Types (ac.)			Section Totals
	Riverine	Palustrine	Lacustrine	
Section A	4,738	16,313	1,852	22,903
Section B	3,031	24,228	6,507	33,766
Section C	10,697	28,870	5,873	45,440
Type Total	18,466	69,411	14,232	102,109

The GIS layers that provided the wetland data for this analysis were developed by the US Fish and Wildlife Service (USFWS) as part of the National Wetlands Inventory. The data were published in May of 1996 and includes sources from 1971-1992.

Priority Habitat

Developed by the Washington Department of Fish and Wildlife (WDFW), the priority habitat and species database includes those habitat types with unique or significant value to fish and other wildlife species. Priority species are those species that require special efforts to ensure their continued existence as a result of decreasing numbers, habitat alternation, vulnerable populations, or those that are of commercial, recreational, or tribal importance. The layers also include locations of federal and state listed species, migration corridors, breeding territory, and other related themes. The data used for this analysis were published in 1990 and are based on research efforts, field surveys, and observations of WDFW biologists. It is not intended to be a complete inventory of the current habitat and species within Washington State.

The potential WCC area includes 716,681 acres of priority habitat, or approximately one-half of the entire proposed corridor area. Section A includes 54,879 acres of priority habitat (14 percent of the total section area), Section B includes 228,448 acres of priority habitat (approximately 41 percent of the total section area), and Section C includes 433,314 acres of priority habitat (roughly 80 percent of the total area). The rationale for this figure lies in the definition of priority habitat, which includes general areas such as oak woodlands, wetlands, riparian zones, and elk habitat. For example, in Section C, almost 80 percent (340,760 acres) of the land classified as priority habitat is identified as elk habitat and oak woodland. For a complete list of the specific species and habitats identified in the proposed corridor area, please see Appendix A.

Although the species and habitats identified in the data layers are important resources of Washington State, many of the individual species and areas are not currently designated for state or federal protection. The data are provided to introduce the types of species and habitat the proposed corridor may impact, and is not presented as an exhaustive list or a complete inventory.

Landslide Hazards

Landslides represent a significant hazard along the hillsides and shorelines of Washington State. Factors such as geology, gravity, weather, wave action, groundwater, and human development influence the location and severity of landslides. In particular, the areas around Puget Sound are highly susceptible to landslides as a result of steep slopes made of unconsolidated glacial deposits. As a large, multi-modal transportation system, the extent of current landslide hazards in relation to the proposed corridor area could have a significant impact on the corridor's overall feasibility.

Of the total potential WCC area, 33,934 acres (53 square miles), or 2 percent, is identified as a landslide hazard area. These areas include locations where mass wasting events (landslides) have occurred, including soil slips, slumps, or failures. Section A includes 6,665 acres of landslide hazards, predominately located along Highway 9 in Whatcom and Skagit counties (see Figure 1). This area represents roughly 1 percent of the total corridor area in this section. Section B includes 10,088 acres of landslide hazard areas, the majority of which are spread out throughout the corridor in individual locations. This area occupies approximately 2 percent of the total corridor area in this section. Section C includes 17,179 acres of landslide hazard area, or about 3 percent of the total corridor area in this section. The majority of the landslide hazard area is located in the middle section of the three possible corridor routes from Lewis County to Thurston County (see Figure 1).

The data used to categorize the landslide hazards along the corridor area comes from the Washington Department of Natural Resources (DNR), Forest Practices Division, and was published from compilation of data sources in October of 2003.

Seismic Hazards

Each year in Washington over 1000 earthquakes are recorded, and 15-20 of these are strong enough to be felt by humans. The greatest concentrations of these earthquakes are located in the Puget Sound lowlands and the western Cascade Ranges from Olympia to the Canadian Border. Seismic hazards should be of particular concern to any regional transportation system because, if significant enough, they could represent a fatal flaw for the corridor, or considerably decrease the corridor's overall feasibility. To identify the potential seismic hazards along the corridor, areas having high soil liquefaction were identified. Soil liquefaction decreases the strength and stiffness of a soil by earthquake shaking, forcing solids to behave more like liquids and causing significant damage to those structures built on the soil. Providing the location of soils with a high liquefaction hazard identifies those areas that should be avoided to decrease the impact of seismic events (see Figure 1 for general locations of these areas).

The potential WCC area includes a total of 177,178 acres of high seismic hazard areas (277 square miles), or 12 percent of the total area of the corridor. Section A includes 70,077 acres of these lands (approximately 18 percent of the total section area), predominately located along Highway 9 in Whatcom County, around the town of Sedro-Woolley in Skagit County, and around the towns of Arlington and Monroe in Snohomish County. Section B includes 46,845 acres of lands classified as high seismic hazards, or about 8 percent of the total area in this section. These areas are located throughout Section B, but occur mainly along Highway 203 from North Bend to Duvall. Section C includes 60,256 acres of high seismic hazard lands, or approximately 11 percent of the total section area. These lands are located around the towns of Toledo in Lewis County,

Longview and Kelso in Cowlitz County, and the town of Woodland, which straddles Cowlitz and Clark Counties.

The data used to identify areas that have high soil liquefaction are a product of the DNR, Geology and Earth Resources Division. The preliminary data were published in September of 2003 and are scheduled for a revision in the fall of 2004.

Wildlife Refuges

Washington State has 29 designated National Wildlife Refuges. These areas are located throughout the state and exist for the conservation, management, and where appropriate, the restoration of fish, wildlife, and plant communities. They include the following areas:

- | | |
|------------------------------------|--------------------------|
| ▪ Cold Springs NWR | ▪ Mid-Columbia River NWR |
| ▪ Columbia NWR | ▪ Nisqually NWR |
| ▪ Conboy Lake NWR | ▪ Pierce NWR |
| ▪ Conboy NWR | ▪ Protection Islands NWR |
| ▪ Copalis NWR | ▪ Quillayute Needles NWR |
| ▪ Dungeness NWR | ▪ Ridgefield NWR |
| ▪ Flattery Rocks NWR | ▪ San Juan Islands NWR |
| ▪ Franz Lake NWR | ▪ Steigerwald Lake NWR |
| ▪ Grays Harbor NWR | ▪ Steigerwald Lake NWR |
| ▪ Hanford Reach National Monument/ | ▪ Toppenish NWR |
| ▪ Saddle Mountain NWR | ▪ Turnbull NWR |
| ▪ Julia Butler Hansen NWR | ▪ Umatilla NWR |
| ▪ Lewis & Clark NWR | ▪ Willapa NWR |
| ▪ Little Pend Oreille NWR | ▪ Willapa NWR Complex |
| ▪ McKay NWR | |
| ▪ McNary NWR | |

Along with the Federal National Wildlife Areas, Washington also has wildlife refuges owned by state and county agencies including designated wildlife parks and areas located throughout the state.

The proposed WCC area passes through a total of 3,528 acres of wildlife refuges and parks. Of these, 377 acres are located in Section A, 1,432 acres are located in Section B, and 1,719 acres are located in Section C. The following table provides a breakdown of the type and extent of the wildlife refuges in each corridor section.

Exhibit 3-4: Wildlife Refuges in Each Corridor Section

Section A			
Owner	Management	County	Acres
County Government	Wildlife Refuge	Snohomish	125
County Government	Wildlife Refuge	Snohomish	17
Washington State	Wildlife Refuge	Snohomish	9
Washington State	Wildlife Refuge	Snohomish	226
Section B			
Owner	Management	County	Acres
Washington State	Cherry Valley Wildlife Area	King	380
Washington State	Stillwater Wildlife Area	King	502
County Government	Northwest Trek Wildlife Park	Pierce	550
Section C			
Owner	Management	County	Acres
US Federal Government	NWR	Clark	356
US Federal Government	NWR	Clark	6
US Federal Government	NWR	Clark	114
Washington State	Wildlife Refuge	Clark	70
Washington State	Wildlife Refuge	Clark	138
US Federal Government	NWR	Clark	1,035
Total Acreage:			3,528

Other Environmental Impacts and Natural Constraints

As previously mentioned, the constraints listed above do not represent an exhaustive list of all the potential resources that may be impacted by the proposed corridor area. Other resources and issues should be addressed in further studies to increase the level of information on overall impacts and to identify more specific and individual influences on corridor feasibility. Examples of these other environmental impacts include:

- Impacts to salmon spawning habitat and other species-specific impacts
- Noise impacts
- Impacts from developing floodplain areas and general flood-related impacts
- Volcanic instability/eruptions
- Air quality impacts (specifically in constrained valleys)
- Wildlife migration corridors

Impact Analysis – Natural Constraints

To provide general conclusions regarding the impact of the identified natural constraints on overall corridor feasibility, four main measurement parameters were identified to assess the general level of potential impacts. They include magnitude, extent, duration, and probability of impact. Within each of these parameters, general ratings of high, medium, and low measure the overall

level of the parameter. In general, the higher the rating, the greater negative impact on overall feasibility

The following general threshold definitions provide the framework of the impact analysis and were developed with the intention of qualitatively measuring the overall relationship with corridor feasibility.

Magnitude

High	The WCC would substantially degrade and threaten existing natural resources within and around the corridor footprint. Impacts would destroy pristine areas and extirpate species, migration routes, and other natural resources.
Medium	The WCC would partially degrade or threaten existing natural resources within and around the corridor footprint. Impacts would be at higher levels that are currently occurring and some specific impacts could be directly attributed to corridor-related components.
Low	The WCC would slightly degrade or threaten existing natural resources within or around the corridor footprint. Impacts would be similar to other abiotic factors currently affecting these resources.

Extent

High	WCCs impacts would occur throughout the corridor and be generally classified as widespread impacts to the natural resources of western Washington.
Medium	WCCs impact would occur at multiple sections of a given natural resource along the corridor or would occur cumulatively at a general level throughout the corridor. Impacts would be expected to extend beyond the corridor footprint to include natural resources in the general areas surrounding the corridor.
Low	WCCs impact would be limited to isolated natural areas/resources along the corridor and would not be expected to extend to natural resources beyond corridor right-of-way areas.

Duration

High	Impacts from the WCC on natural resources would occur or last through the life of the project or be generally recognized as permanent.
Medium	Impacts from the WCC on natural resources would occur during construction and the general post-construction period, with little or no impact occurring in the long-term.
Low	Impacts from the WCC on natural resources would be limited to construction and would not generally occur after completion of the WCC

Probability

High	Impacts on natural resources from the WCC will likely occur regardless of outside factors or circumstances.
Medium	Impacts from the WCC on natural resources may occur or would be possible depending on outside factors or circumstances.
Low	There would be little or no likelihood that impacts to natural resources would occur.

At this stage, it is difficult to identify measurable thresholds within a specific natural constraint using primarily percent-cover data and without knowing more about a specific projected corridor location. As part of a feasibility-level analysis, this chapter provides a general overview of potential impacts that may occur as a result of a concept such as the WCC and attempts to generally qualify those impacts to provide a base from which to move forward to further analyses. It is during this potential further study where more detailed, quantitative data and results may be obtained.

However, the following table represents an attempt at qualifying each of the potential impacts by assigning a general rating for each threshold. From here, cumulative ratings can be developed that provide a more consolidated relationship between potential environmental impacts and overall corridor feasibility.

Exhibit 3-5: Threshold Rating for Natural Constraints

Natural Constraint	Threshold and Rating			
	Magnitude	Extent	Duration	Probability
Streams	Medium	Medium	Medium	High
Wetlands	High	Medium	High	High
Priority Habitat	High	High	High	High
Landslide Hazards	Medium	Low	Low	Medium
Seismic Hazards	Medium	Low	Low	Medium
Wildlife Refuges	High	Medium	High	High

To provide a further step in qualifying the impacts relationship to feasibility, the following table organizes and rates the thresholds according to a cumulative measurement of each natural constraints identified in this chapter. Using estimated impacts cumulatively from the identified natural constraints, an overall rating was assessed for each of the four thresholds. Overall, impacts would be expected to reach a high level for such a large scale and geographically extensive project, even accounting for mitigation that would be required by existing environmental regulations.

Exhibit 3-6: Cumulative Ratings for Natural Constraints

Threshold	Overall Ratings	Conclusions
Magnitude	Medium-High	As a result of WCC construction, it would be likely that impacts to natural constraints in and around the corridor would be at a greater level than those impacts currently occurring. Specifically, environmental impacts on species habitat and migration corridors could be substantial and would be directly attributed to WCC construction, and for some resources, could significantly degrade or threaten the resource.
Extent	Low-Medium	Although impacts to natural resources would be expected as a result of WCC development, it would be unlikely that these direct impacts would be widespread assuming the current environmental regulations are adhered to.
Duration	Low-High	As a result of the development and construction of the WCC, direct impacts to environmental resources would likely exist in the short-term, and some resources could be affected following post-construction. It would be unlikely that, for most resources, direct impacts would be considered long-term and permanent under current environmental regulations. However, some resources may be impacted in the long term and some impacts could be considered permanent.
Probability	Medium-High	There would be a significant probability that impacts to the cumulative natural constraints would occur. It would be highly unlikely that the development of a regional transportation system would not impact these resources/areas to some degree.

Review and Permitting

The purpose of this section is to identify possible approaches for review and permitting of the Washington Commerce Corridor. As the potential environmental and community impacts of such a complex and substantial transportation project are many, and the process for obtaining approvals complex, the report discusses these issues on a broad scale, attempting to provide a starting point for further detailed analysis. Although the issues are interrelated, environmental review and permitting will be addressed separately to provide a more clear and concise description of each issue.

Existing Environmental Review

The current environmental review framework in Washington is based on the State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA) for those projects that include federal components. SEPA provides the framework for agencies to consider the environmental consequences of a proposal before taking action and gives agencies the ability to condition or deny a proposal due to possible significant adverse impacts. Following a determination of significance (DS), an environmental impact statement (EIS) is prepared if the lead agency determines a proposal is likely to have significant adverse environmental impacts. The EIS provides a discussion of significant environmental impacts, reasonable alternatives, and mitigation measures that would avoid or minimize adverse impacts. Following this, the agency decision-maker must consider the environmental, technical, and economic information when deciding whether to approve a proposal.

For those projects that include federal components such as funding or permits, a NEPA analysis is required. The NEPA process consists of an evaluation of the environmental impacts of a federal action including its alternatives. There are three possible levels of analysis including categorical exclusion determination, preparation of an environmental assessment/finding of no significant impact (EA/FONSI), and/or preparation of an EIS. The NEPA EIS process is similar to the EIS process under Washington's SEPA. Scoping is performed, a draft EIS is issued, and lastly, a final EIS is prepared. After completion of the EIS, the federal agency typically issues a record of decision that includes the decisions made, the alternatives considered, and the factors that were considered in reaching a decision. The environmental documents are disclosure documents which agencies with jurisdiction use in making decisions about approvals and permits.

Many projects also require approval from both State and Federal agencies. In this situation, state and federal lead agencies are encouraged to work together as co-lead agencies in issuing a joint NEPA/SEPA EIS. State and Federal agencies may also use existing SEPA or NEPA documents for incorporation into their respective documents.

Existing Environmental Permitting

The primary agencies responsible for environmental permitting in Washington include:

- The Department of Ecology
- Department of Fish and Wildlife
- Department of Health
- Department of Natural Resources

- The US Army Corps of Engineers
- Local air quality authorities.

These agencies permit actions that have the potential to impact the natural and human environment of Washington State. Federal agencies, such as the Army Corps of Engineers, permit activities under their respective jurisdictions, and normally involve applicable state agencies in the process. In addition, the Environmental Permitting Services arm of the Washington Office of Regulatory Assistance assists citizens, businesses, and project applicants understand the environmental permitting processes. Regional staff members assist in coordinating permit applications for large, complex projects. The Department of Ecology (Ecology) is recognized as the state's principal environmental management agency and is generally involved in the review or issuance of major environmental permits in some capacity.

The environmental permits required in Washington are generally resource-based, and include the following major permit types:

- Air Quality Permits
- Aquatic Resource Permits
- Archaeology and Historic Preservation Permits
- Federal Requirements/Permits
- General Permits
- Land Resource Permits
- Livestock Permits
- Local Permits
- Pesticide Permits
- Tribal Requirements
- Waste and Toxic Substance Permits
- Water Quality Permits
- Water Resource Permits
- Wetland Permits

The permit process is unique to each agency and permit, but most permits require the following broad steps: determination of permit requirement, application submittal, agency review of application, public comment period, agency finding, appeal phase, subsequent review phase, and lastly, permit issuance or denial.

At a minimum, permitting the entire WCC under the existing framework would include the use of over 30 types of state and federal permits normally required for a transportation project. Listed in the WSDOT Environmental Procedures Manual, these permits and approvals highlight the complex nature of permitting transportation-related projects. Assuming the complexity of the proposed WCC, one can assume that the majority of these permits would be required at some point of the project. The permit types are listed below in Exhibit 3-7.

Exhibit 3-7: Types of State and Federal Permits/Approvals Required for Transportation Projects

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| <ul style="list-style-type: none"> ▪ Section 4(f) ▪ Section 6(f) ▪ Section 106 ▪ Critical/Sensitive Areas Ordinances ▪ Clearing, Grading and Building Permits. ▪ Operating Permit for Surface Mining ▪ Permit or Approval Joint Aquatic Resource Permits Application (JARPA) ▪ Section 9 (Bridge) ▪ Section 10 ▪ Hydraulic Project Approval ▪ Section 401 Water Quality Certification ▪ Section 402 NPDES Permit ▪ Section 404 Individual and Nationwide Permits ▪ State Waste Discharge (SWD) Permit ▪ Easement over Navigable Water ▪ Sewage Facilities ▪ Temporary Water Quality Disturbance ▪ Water quality modification -herbicide use ▪ Coastal Zone Management Certificate | <ul style="list-style-type: none"> ▪ Temporary Air Pollution ▪ New Source Construction ▪ Shoreline Permits ▪ Floodplain Development Permit ▪ Water Rights Permit ▪ Water System Project Approval ▪ Underground Injection Control ▪ Threatened and Endangered Species ▪ Fish Habitat Enhancement Project Application ▪ Aquatic Resource Use Authorization ▪ Wetlands Report ▪ Noise Permit ▪ Hazardous Waste Tracking Form ▪ Monument Removal ▪ Wild and Scenic Rivers ▪ Farmland conversion ▪ Forest Practices Application ▪ Archeological Resources Protection Permit ▪ Airport/Highway Clearance |
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The Environmental Procedures Manual also includes a series of checklists for Discipline Reports (air, water, socioeconomics, etc) to address the information needs of the various permits and the NEPA/SEPA process. These checklists serve as the starting point for preparing environmental documentation on a project.

The WCC would also require permits and approval for the utilities-related components of the corridor, including petroleum and natural gas pipelines, power lines, and telecommunication lines. At the state level, several of these components fall under the authority of the Energy Facility Site Evaluation Council (EFSEC). EFSEC coordinates the evaluation and licensing steps for siting major energy facilities in Washington, and functions as a one-stop energy licensing agency. EFSEC's application and certification process includes the following primary steps:

- Application Submittal
- Application Review
- Initial Public Meeting
- Land Use Consistency Hearing
- Environmental impact statement
- Adjudicative proceedings and permits review
- Recommendation to the Governor

Following approval of the Site Certification Agreement (SCA), EFSEC is responsible for regulating the construction and operation of the facility/project. The Council has the regulatory authority to enforce compliance with state laws and the SCA through fines or by stopping construction or operation of the project. EFSEC continues this oversight responsibility through restoration of the site after the project has been completed.

WCC Challenges Under Existing Environmental Review

Existing environmental review processes in Washington, although functional, are currently not equipped to handle a project of this scope. As a result of the WCCs multiple components such as rail, highway, pipeline, transmission lines, current review methods would create a fragmented approach, increasing project delays and costs for those involved.

A new, streamlined process would serve to both expedite the review process while striving to protect and enhance Washington's State's natural environment. On a conceptual level, there are numerous options that could streamline the review process, creating an efficient and responsible review framework for the WCC. What is required, however, is to provide environmental review options that have the ability to offer practical solutions for facilitating project review for the WCC. By also incorporating existing national and state environmental streamlining processes, the WCC could benefit from strategies already in place.

Existing Streamlining Activities for Review and Permitting of Transportation Projects

TEA-21 - TEA-21 directs the Secretary of the U.S. Department of Transportation to work with the heads of the other federal agencies to streamline the environmental review of transportation projects. TEA-21 suggests the development of a Memorandum of Understanding (MOU) between the environmental agencies and the Department of transportation outlining a streamlined review process including agreed-upon shortened review time frames. It also includes a section on Environmental Streamlining Provisions (Section 1309) that aims to coordinate federal agency involvement in major highway projects under NEPA to address concerns relating to delays in implementing projects, unnecessary duplication of effort, and added costs associated with the conventional process for reviewing and approving surface transportation projects. TEA-21 was reauthorized in 2004.

National environmental streamlining action plan - In 2002, the FHWA developed a national action plan that outlines activities to streamline environmental initiatives including: expedited reviews, flexible mitigation, cross-training, evaluation measures, and dispute resolution. The items on the action plan would lead to reduced timelines, improved interagency coordination, enhanced environmental outcomes, and cost savings.

As national strategies, the above streamlining plans could serve as a starting point for a environmental streamlining program for the WCC. Depending on the involvement of federal agencies in the WCC process, these planning guidelines themselves could be initiated early in the process to serve as a guide for the chosen review entity.

In Washington, there have also been efforts to introduce the concept of streamlined environmental review processes into transportation-related projects. The 2000 Northwest Transportation/Environmental Streamlining Summit provided a base to further environmental streamlining related to transportation projects. The summit focused the objectives of the TEA-12 legislation onto agencies and projects in the northwest. The summit developed environmental streamlining strategies and drafted the Northwest Cooperative Agreement on Environmental Streamlining and Interagency Cooperation on Environmental and Transportation Issues. This agreement was signed by agency representatives from Oregon, Washington, and Idaho, and served to develop principles of agreement including process improvements, data gathering, data development, information sharing, and resources. Exhibit 3-8 summarizes the principles of agreement that were identified at the summit.

Exhibit 3-8: Northwest Cooperative Agreement Principles

Process Improvements

- Develop processes that assure the timely development of cost-effective and environmentally sound transportation plans and projects. These processes should emphasize early involvement and the use of concurrent reviews of plans and projects.
- Recognize effective and successful coordination processes and use them as a basis for improving coordination and cooperation among stakeholders.
- Develop regional and state specific interagency agreements and mutually agreed upon standard operating procedures. Programmatic approaches and the certification of state programs based upon performance audits should be considered as a means to streamline processes.
- Agencies should recognize regional state priorities and establish interagency review time frames.
- Establish an acceptable conflict resolution process.
- Review the effectiveness of streamlining processes with respect to timeliness and environmental protection benchmarks and make adaptive management changes as needed.

Data Gathering, Data Development, and Information Sharing

- Identify data needs, emphasize the development of compatible data management systems, gather pertinent data, and share information to help shape transportation decision-making and improve environmental quality.
- Provide opportunities for the participation of all stakeholders and the public throughout transportation planning and project development processes.
- Respect other agency's proprietary information designations.
- Develop interagency capacity to share data by adopting compatible data system technologies.
- Encourage continued regional discussions as well as state specific dialogue on relationships between land use, growth, and transportation using state-of-the-art information management tools.



Resources

- Remove constraints on agency workforce, budgets, and authorities which affect the success of streamlining activities.
- Develop pilot programs to promote new ways of utilizing fiscal and human resources. Allow agencies to demonstrate sufficient technical expertise and capabilities to administer new programs.
- Develop partnership agreements between agencies to share resources, promote watershed and programmatic approaches to reduce costs and improve benefits.
- Cost savings should be recaptured by the participants to promote further improvements.
- Support adequate staffing, program, and capital budgets needed for tribes, state, and federal agencies to successfully achieve environmental streamlining.

Another focal point of streamlining efforts is the 2001 Environmental Permit Streamlining Act (RCW 47.06), enabled to coordinate and streamline the environmental permitting process for transportation projects. Reauthorized in March 2003, the bill extended the expiration date of the interagency Transportation Permit Efficiency and Accountability Committee (TPEAC) through March 2006. The primary responsibilities of the TPEAC include the following:

- Developing a one-stop permit decision-making process
- Creation of a technical subcommittee
- Creation of a process to develop a programmatic approach for transportation projects development and prioritization of a list of permit streamlining opportunities
- Development of a watershed approach to environmental mitigation
- Delegation to the state where appropriate to streamline permit processes for transportation projects of statewide significance
- Develop a dispute resolution process to resolve conflicts in interpretation of environmental standards and management practices, mitigation requirements, permit requirements, and assigned responsibilities
- Develop preliminary models and strategies for agencies to test how best to maximize the environmental investment of transportation funds on a watershed basis
- Develop a consistent methodology for the timely and predictable submittal and evaluation of completed plans and specifications detailing project elements that impact environmental resources

To date, the TPEAC has constructed technical subcommittees, initiated pilot projects, developed white papers on environmental streamlining, and drafted resolutions discussing issues such as one-stop permitting, programmatic approaches, NEPA/404 merger agreements, and other methods to provide for a more efficient environmental review and permitting process.

One project that is utilizing TPEAC procedures is the Yakima River Bridge (SR 24). The bridge is serving as the pilot project for an urban center to serve as a rural corridor in Yakima. The project is currently devising methods to reclaim and open up almost 3,000 acres of riparian habitat that was lost during the 1920's. Environmental issues of concern include habitat concerns, salmon protection, wetlands, and flooding. The project sought to identify, analyze, and resolve issues or problems resulting in streamlined documentation and permitting process. The IDT sought to accomplish numerous streamlining objectives such as:



- Compiling applications and conducting concurrent or group reviews of project details as appropriate, contributing to the development of a streamlined process.
- Identifying critical paths, setting time lines, and establishing roles and responsibilities for team members, developing focused action groups as necessary to expedite the work.
- Determining the appropriate level of documentation required for a good project description. Integrating adequate design detail and critical construction methods provide for environmental analysis resulting in a streamlined permit process.

Although the above initiatives were created on a much smaller scale than would be necessary for the proposed WCC, they offer a useful starting point for creating a streamlined process for the environmental review of such a complex project. The inclusion of many of these streamlining principles could greatly influence the overall feasibility of the environmental review and permitting process necessary for the WCC.

Transportation Projects – GMA Intent and Collaborative Review Process

In the GMA, the legislature identifies many of the issues inherent in the development of projects like the WCC. The legislature recognizes that many transportation projects involve multiple jurisdictions forcing “segmented and sequential decisions” by local governments that do not facilitate an efficient process. The legislature intends that “local governments coordinate their regulatory decisions by considering together the range of local, state, and federal requirements for major transportation projects.”

One way to accomplish this coordination is discussed in the GMA under RCW 36.70A.430. The code establishes a collaborative review process that reviews and coordinates state and local permits for all transportation projects that cross city or county boundaries. It also states that the review process should at a minimum, “establish a mechanism among affected cities and counties to designate a permit coordinating agency to facilitate multijurisdictional review and approval of such transportation projects.”

Opportunities for an Innovative Review Authority

The development of a review entity or authority dedicated to the WCC could provide a centralized, streamlined, and efficient method of reviewing its numerous components. The following concepts provide examples of the design and responsibilities of a potential entity and are not intended to represent the actual make-up and functions of a final WCC review authority. The concepts serve as a starting point to demonstrate possible directions for a potential review authority. A summary of the main issues of these concepts is provided in Table X.

1) WSDOT Interagency Review Board. This concept allows WSDOT to continue to play the pivotal role in the development of the WCC. WSDOT could take a lead-agency role in establishing and developing a collaborative interagency review board for the WCC. This board, similar to the make-up of Inter-disciplinary teams (IDT), could therefore serve as the environmental review mechanism for the corridor. The makeup of the board would mirror the corridors environmental components and could include representatives from FHWA, FTA, EPA, Ecology, regional transportation groups (such as PSRC), applicable local agencies, and other agencies representing the various components of the WCC.



This concept could also build on the use of liaison staff created as part of the 2001 Permit Streamlining Bill. These staff members work on transportation project streamlining and represent their respective agencies on TPEAC subcommittees such as the One-Stop Permitting, Programmatic Approvals and Watershed-Based Mitigation. Current liaison positions are filled with the following agencies:

- US Army Corps of Engineers
- US Fish and Wildlife Service
- US NOAA Fisheries Service
- WA Department of Ecology
- WA Department of Fish & Wildlife
- Tribal Organizations in WA State

In addition, further partnerships and use of existing agreements with federal agencies would be necessary. Providing for these partnerships early in the development of the review board would be critical to its success.

2) Public/Private Consortium. Using the Washington State Public Stadium Authority (PSA) as an example, a new authority could be set up to oversee environmental review of the siting, design, construction and operation of the WCC. This option could include a governor-appointed board that would function as the environmental review mechanism for the WCC. The other element of the consortium would require the development of a private conglomerate responsible for the development and operation of the corridor. The governor-appointed board, however, would retain oversight authority and ensure the protection of the state's natural resources.

This concept would require initial steps to assess industry groups' interest in such a partnership and to determine if the partnership would be an effective mechanism to protect the state's natural and human resources. Issues of entitlement and right-of ways could present an obstacle in the early participation by private industry groups in this partnership.

3) EFSEC-type authority. In the creation of EFSEC, the Washington State Legislature centralized the evaluation and oversight of large energy facilities in a single location within state government. This created a "one-stop" licensing agency capable of balancing protection of environmental quality, safety of energy facilities, and concern for energy availability. By using this as a guide for a WCC review and permitting authority, this new agency would be responsible for environmental review, siting and permitting the segments and projects that would make up the WCC. These components would all be handled imitating the "one-stop" process used currently at EFSEC. This new WCC authority would be responsible for review and oversight of all new transportation corridors in WA.

This concept would require significant legislative changes to create, staff, maintain, and fund such and agency. Other impediments may include political uncertainty, staff nominations, and the regulatory responsibility and rulemaking capacity of the agency.

This concept also differs significantly from the other options in its ability to permit the projects necessary to complete the WCC. Although review and permitting have been primarily separate functions for other projects, this combination would seek to further expedite the diverse environmental analysis required for such a large multi-modal project.

Exhibit 3-9: WCC Review Authority Concepts

Concept	Model	Environmental Lead Agency	Permitting Authority
WSDOT Interagency Review Board	Existing lead-agency/IDT models	WSDOT	No. Vested with applicable resource agencies
Public/Private Consortium	WA Public Stadium Authority	Appointed board of agency/public representatives	Same as above. Would assume a more expedited process due to partnership with private consortium responsible for development.
EFSEC-type authority	EFSEC	WCC Authority. Appointed chair and members function as lead agency	Yes. Authority retains review and permitting function

The above three options highlight a few strategic approaches that could facilitate a more efficient environmental review process for the WCC. The first seeks to build on the existing WSDOT-lead framework used in many current transportation projects while enhancing the role of TPEAC liaison staff in assisting efforts to streamline the environmental review process. The second concept involves a collaborative partnership between a public-appointed review board and a private conglomerate, based on the successful partnership used in the construction of the Seahawks Stadium. The final concept creates an entirely new Washington State agency based on an EFSEC model. This agency would also be responsible for permitting the components of the potential WCC. Further analysis into the concepts' possible makeup, authority, and governance would assist in determining the most appropriate choice for the future WCC.

Potential Community Issues

The location and size of the proposed WCC will unavoidably impact some of the communities of western Washington. The development of a multi-modal corridor has extensive benefits and costs for citizens of Washington State. The sum of these benefits and costs may significantly influence the corridor's overall feasibility. Potential community issues that the project may encounter include: loss of a sense of place, loss of community fabric, dislocation and other quality of life concerns. Though difficult to quantify, these issues are of the same importance as environmental effects in determining the overall impact of the WCC. They must therefore be considered in a comprehensive and serious manner.

The objective of this discussion is to highlight the potential community issues surrounding this project and to identify those factors that could have the greatest impact on the corridor's feasibility. To determine this, the consistency of the WCC with Washington's Growth Management Act (GMA) will highlight those components of the WCC that may be in conflict with



the GMA's regulations and those that adhere to them. The identification of land use constraints will determine the magnitude, extent, duration, and probability of these constraints on overall corridor feasibility. It will also provide a starting point for further identification of community issues. Finally, the community economic impact analysis will identify the benefits and costs of such a project on the surrounding communities and identify any potential environmental justice issues that must be addressed.

As part of a feasibility study, this document is meant to introduce a range of community issues that could be encountered throughout the duration of the project. It may appear to overlook or understate certain impacts as perceived by effected communities or individuals. It is crucial to continue to identify these views throughout the feasibility process, and to continue to consider them at every stage of the project.

Identification of Land Use Constraints

Indian Reservations

The state of Washington has 32 federally and non-federally recognized tribes. These tribes are dispersed throughout Washington and several of these tribes have lands in and around the corridor footprint. The proposed corridor area passes through a total of 1,719 acres of tribal land. These tribal lands are part of the Muckleshoot Tribe and occur only in Section B. The area is located southeast of the town of Auburn and may be located on Figure 2. According to the dataset, there are no tribal lands that intersect the proposed corridor area in any other section³

The data used to obtain tribal information were derived from the Major Public Lands GIS layer developed by the Washington Department of Natural Resources' (DNR) Division of Information Technology. The data layer includes ownership parcels for Federal, State, County, City, and Tribal lands within the State of Washington. The data layers were last updated in 2000 and were published in April of 2003.

Municipal Watersheds

As previously mentioned in the "Fatal Flaw" section, the proposed corridor area crosses only one municipal watershed, the Cedar River Watershed. The Cedar River Watershed is the primary water source for the 1.3 million people of the greater Seattle Area and encompasses roughly 90,000 acres. One currently proposed route of the corridor (Segments E06 and M09 as shown in Exhibit 5-1) directly crosses 30,605 acres of this watershed, or approximately 34 percent of the total watershed area. This particular resource was identified as a fatal flaw for the project as the impacts to this resource as a result of such a project would be significant and outweigh any potential benefits of such a route.

³ The tribal data supplied by the DNR's Major Public Lands GIS Layer shows a discrepancy regarding the location of a small amount of additional tribal lands underneath the corridor area when compared to other sources. This may result from discrepancies regarding the updating of individual GIS layers in this dataset. Any further environmental analysis regarding this project should incorporate a review of this discrepancy.

Urban Growth Areas

The designation of Urban Growth Areas (UGA) is required by the GMA and it is in these areas where the majority of urban development should occur. The GMA has specific requirements of this designation, summarized in RCW 36.70A.110. It states that: “Each county that is required or chooses to plan under RCW 36.70A.040 shall designate an urban growth area or areas within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature....”

The GMA goes on to state that urban growth should be located first within those areas of the UGAs that are characterized as having urban growth and that have adequate existing public facilities to support that growth. Following this, urban growth should be located where the new facilities necessary to support further growth may be combined with existing facilities, and lastly, urban growth should be located in the remaining portions of the UGAs. UGAs are described in each county’s comprehensive plan and are amended according to each specific county’s guidelines. Counties and cities assign expected population growth to UGAs, and population growth figures for each county are provided by the state Office of Financial Management. The UGAs need to accommodate urban growth for a 20-year projected population increase.

The proposed corridor area crosses a total of 233,686 acres of land designated as UGAs, accounting for approximately 16 percent of the total corridor area. Conversely, 83 percent of the proposed corridor area is located outside of an area where urban growth is encouraged to develop. However, with each amendment to their comprehensive plans, counties increase the number of UGAs or alter the current extent of existing ones. Assumed projected growth in counties over the 30-50 year timeline of the WCC would increase the amount and extent of the UGAs , and possibly include the majority of the proposed WCC area.

Of the total acreage of UGAs in the proposed corridor area, there is a total of 16,524 acres in Section A, 48,734 acres in Section B, and 168,428 acres in Section C. This represents 4 percent, 9 percent, and 31 percent of each section’s total corridor area, respectively.

The data used for the above calculations were obtained from each specific county’s GIS or data management department. The majority of the counties had a specific data layer that identified the name and extent of the UGAs in their counties. Many of the counties have updated their UGA boundaries in relation to their new comprehensive plans, while others are in the process of developing the most up to date data.

Land Use/Zoning Classifications

Current land use in those areas where the proposed corridor area is located may be in conflict with the designations needed to support a regional transportation system. Much of the area underneath and around the corridor footprint is currently classified as rural and residential land and would not be consistent with a use such as the WCC without conditional approval. At this stage, three main zoning classification have been identified that will highlight where and to what extent the corridor area could conflict with existing land use. They include agricultural, residential, and rural. The following table provides a summary of the land use/zoning information in relation to the corridor area. Rural and residential Data from Cowlitz County were not available at the time of the study.

Exhibit 3-11: Existing Land Use/ Zoning in the Potential Corridor Area

Corridor Section	County	Land Use/Zoning Classification (acres)		
		Agricultural	Rural	Residential
Section A	Whatcom	38,848	17,427	*
	Skagit	21,590	11,625	*
	Snohomish	5,136	90,667	1,547
Section B	King	*	96,002	4,875
	Pierce	9,554	110,092	5,276
	Thurston	6,137	58,717	1,440
Section C	Lewis	50,065	**	33,127
	Cowlitz	12,681	No data available	No data available
	Clark	15,620	58,986	19,100
Classification Totals		159,631	443,516	65,365

Historic Districts and Sites

The protection of Washington's cultural resources is maintained through legislation such as the National Historic Preservation Act and the State Environmental Policy Act (SEPA). These laws require that impacts to cultural resources be considered during the public environmental review process. As the state's primary agency in maintaining historic and cultural preservation, the Office of Archaeology and Historic Preservation (OAHP) reviews more than 3,500 federal, state and local government projects for effects on cultural resources

There are numerous cultural and historic sites in and around the proposed corridor area, including a total of 120 historic points and 65 acres of historic districts. Section A includes 8 points and no districts within the corridor area; Section B includes 48 points and no districts in the corridor area; and Section C includes 64 points and the entire 65 acres of historic districts.

Data used for the historic sites and districts were obtained from the OAHP. Historic district data represent National and/or State Register-listed Historic Districts with the OAHP and the National Park Service (NPS). The data are updated every 3 months and were published in January of 2004. Historic point data represents locations of National and/or State Register-listed Historic properties reported by the OAHP or the NPS. Certain specific locations of archaeological sites are restricted and are not shown on Figure 2 or represented in the number of historic points.

* The results of the GIS queries used to develop land use data for particular counties yielded results that indicated there were some discrepancies in the representation of the data. These data discrepancies appear to be with the base data received from individual counties. As zoning acreages play only a small part in the overall analysis of corridor feasibility, the omission of this data does not substantially impact the impact analysis results displayed on pp. 28-30 of this document. However, further detailed environmental and community analysis that occurs as a result of this project should incorporate a detailed review of these discrepancies.

National Forests, Parks, and Recreation

The forests and parks within Washington State represent an invaluable resource and are among some of the most unique and impressive natural areas in the nation. Located throughout the state, these areas afford residents and tourists considerable recreational opportunities while providing critical habitat for numerous species.

The proposed corridor footprint does not include any designated National or State parks or recreation areas. It does, however, cross 25,606 acres of National Forest, 15,669 acres in Section B and 9,937 acres in Section C. There is currently no National Forest land in the proposed corridor area in Section A.

Other Community Impacts and Land Use Constraints

As noted above, the list of land use constraints identified in this study is not intended to be exhaustive, and represents only an overview of the types of issues that could be impacted by such a project. The following list seeks to highlight other concerns that should be further studied for their potential influence on corridor feasibility and to determine the corridors level of impact upon them. Much of the concerns relating to community issues are of a personal nature and depend on an individuals own view of the types or level of impact that could occur. Although difficult to identify and quantify, these types of concerns should be identified and analyzed in further studies relating to the potential effects of the WCC. The following list identifies the types of potential issues that may warrant further analysis:

- Community sense/loss of place
- Dismantling of small communities
- Impacts on small/family farms
- Effects on overall quality of life
- Effects on local schools, busing routes, and consistency with school plans
- Impacts to local tourism and recreation businesses
- Barrier effects
- Impacts on existing infrastructure
- Effects on tourism and loss of recreation lands

Impact Analysis – Land Use Constraints

As in the previous section on natural constraints, general conclusions regarding the impact of the land use constraints on overall corridor feasibility were identified. They include the same type of thresholds (magnitude, extent, duration, and probability), but with unique threshold definitions. The broad ratings of high, medium, and low measure the overall level of the parameter, and in general, the higher the rating, the greater negative impact on overall feasibility

Magnitude

High	WCC significantly modifies/alters/conflicts with existing land use classifications, practices, and/or boundaries. Substantial changes to local or regional planning regulations would be expected.
Medium	WCC partially modifies/alters/conflicts with existing land use classifications, practices, and/or boundaries. Some changes to local or regional planning regulations would be expected.
Low	WCC slightly modifies/alters/conflicts with existing land use classifications, practices, and/or boundaries. Little or no changes to local or regional planning regulations would be required.

Extent

High	WCCs impact would extend throughout the corridor at numerous portions and sections or occur cumulatively at a high level within the corridor as a whole. The corridor's location could not be adjusted to mitigate potential impacts to land use components.
Medium	WCCs impact would take place in multiple portions and sections of the corridor or would occur cumulatively at a general level within the corridor as a whole. The exact location of the corridor could be adjusted to mitigate these impacts, but impacts to land use components would remain in some areas of the corridor.
Low	WCCs impact would be limited to isolated portions, sections, or occurrences within the corridor. The exact location of the corridor could be adjusted without substantial difficulty to avoid or decrease the impact on land use components.

Duration

High	Impacts from the WCC on land use components would occur or last through the life of the project or be generally recognized as permanent.
Medium	Impacts from the WCC on land use components would occur during construction and the general post-construction period, with little or no impact occurring in the long-term.

Duration, (continued)

Low	Impacts from the WCC on land use components would be limited to construction and would not generally occur after completion of the WCC.
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Probability

High	Impacts on land use components from the WCC will likely occur regardless of outside factors or circumstances.
Medium	Impacts from the WCC on land use components may occur or would be possible depending on outside factors or circumstances.
Low	There would be little or no likelihood that impacts to land use components would occur.

The following table represents an attempt to qualify each of the potential community/land use impacts by assigning a general rating for each threshold. From here, cumulative ratings can be developed that provide a more consolidated relationship between potential community impacts and overall corridor feasibility.

Exhibit 3-12: Threshold Rating for Land Use Constraints

Land Use Constraint	Threshold and Rating			
	Magnitude	Extent	Duration	Probability
Indian Reservations	Medium	Low	High	Medium
UGAs	High	High	High	High
Land Use/Zoning	High	High	High	High
Historic Districts/Sites	High	Low	High	Medium
Forests/Parks/Rec.	Medium	Low	Medium	Medium

As in the previous case with natural constraints, it is extremely difficult to determine specific impact levels at this stage of the study. Without a specific alignment location, it is unknown where specific, or even general impacts would occur. The summary table below provides only a cumulative estimate based on the individual generalized impacts from each of the land use constraints studied above. Detailed further study into the type and extent of impacts that could occur as a result of the WCC would assist in providing more specific information regarding impact level for each specific land use constraint.

Exhibit 3-13: Cumulative Ratings for Land Use Constraints

Threshold	Overall Ratings	Conclusions
Magnitude	Medium-High	Currently, as 80 percent of the corridor area is classified as land where significant growth could occur, it would be highly likely that there would need to be extensive changes to the current zoning regulations in these areas. Additionally, significant modifications to current county and local comprehensive plans would need to occur.
Extent	Low-High	It would be expected that modifications to specific land use patterns could occur at multiple locations throughout the corridor and at a cumulatively general level throughout the corridor as a whole (although due to the limited area of some resources/uses, impacts could be limited). Although the corridor's location could be adjusted to mitigate or eliminate some of these issues, it is likely that there would be multiple locations along the corridor where impacts would occur on some constraints.
Duration	Medium-High	As current zoning and land use practices under multiple sections of the corridor would need to be altered for the development of the WCC, there would be a long-term and likely permanent impact on these zoning classifications and land uses.
Probability	Medium-High	It would be feasible that impacts to specific land uses and zoning would occur and would exist irrespective of outside factors or circumstances, while other resources that may be easily avoided due to their limited area could decrease the probability of impacts.

WCC Consistency with the GMA

Development of the WCC would need to consider consistency with the Growth Management Act (GMA). Consistency with the GMA would increase the overall feasibility of the project and ensure the development pressures associated with such a project are adequately addressed.

The Washington State Legislature enacted the GMA in 1990 in response to growth and development pressures in Washington. The Act requires local governments in fast growing and densely populated cities and counties to develop and adopt comprehensive plans. The Growth

Management Act has been amended multiple times between 1991 and 1998 to further define its guidelines and regulations.

Although the majority of the counties where the proposed WCC would be located plan under the GMA, one county, Cowlitz, is not subject to most provisions of the GMA. However, Cowlitz County has addressed many of the primary provisions of the GMA including the development and adoption of ordinances that classify, designate, and protect critical areas, and other types environmental regulations in the areas of forestry and fish and wildlife protection.

As a first step, it is necessary to determine the WCC's consistency with the GMA's planning goals. The 13 planning goals of the GMA guide the development and adoption of comprehensive plans and development regulations of those counties and cities that are required or have chosen to plan under the GMA. A summary of the WCC's adherence or challenges to each planning goal is provided.

- 1) Urban growth. Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.

The corridor would mainly cross rural lands where public infrastructure is absent. While access to the corridor would be limited to a few locations, it would be expected that there would be pressures for development in proximity to these access connections.

- 2) Reduce sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.

As mentioned above under Planning Goal 1, the location of the WCC would include undeveloped and rural land. Future development pressures near the corridor could increase the potential for sprawl in some areas not classified as UGAs. As a result, reclassification of some areas as UGAs may be desirable in some locations to confine or limit the potential for sprawl.

- 3) Transportation. Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.

Since one of the primary objectives of the WCC is to be multi-modal, the WCC would increase the efficiency of the overall transportation system in Washington. The location of the WCC, and more specifically, the new connecting points with other existing transportation routes, could become a considerable factor in the WCC's coordination with city and county comprehensive plans.

- 4) Housing. Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock.

As primarily a transportation system, the WCC would have little direct impact on current affordability and variety of housing types in the state. Indirectly, however, the construction of the corridor could impact new housing (depending on the corridor's location) development in many areas across the state. Measures would have to be taken



to preserve existing housing when possible and to construct any new housing developments stimulated by the WCC in accordance with the GMA regulations and county and local comprehensive plans. This may require updates to these documents with respect to current housing guidelines.

- 5) Economic development. Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, promote the retention and expansion of existing businesses and recruitment of new businesses, recognize regional differences impacting economic development opportunities, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.

The planning, design, construction, and operation of the WCC would encourage significant economic development in Washington and would promote transportation and utility efficiencies in the state. The WCC could have the potential to decrease freight and passenger congestion along existing transportations systems, therefore decreasing the economic costs of such delays. Although there are numerous economic benefits from such development, further study is required to ensure that the benefits or economic burden does not fall disproportionately onto one group.

- 6) Property rights. Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.

Due to the expansive location of such a transportation system, it is assumed that both public and private property may be necessary for its construction. Just compensation for right-of-way or entitlements would be assumed, and a respect for the economic and personal rights of all property owners would be critical.

- 7) Permits. Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.

The permitting of the WCC would involve local, state, and federal permits. Although all measures would be taken to ensure that permits for the WCC would be processed efficiently, under the current permitting framework, the adequacy and predictability of this process could be strained (see “Existing Environmental Permitting” in the previous section)

- 8) Natural resource industries. Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.

During the siting of the WCC, all appropriate measures would be taken to avoid impacting the current natural resource base used for much of Washington’s industries. However, in some instances, topographical or environmental considerations may force the location of the corridor to traverse such areas. In these instances, all prudent



alternatives would be evaluated and appropriate mitigation and compensation measures would be taken.

- 9) Open space and recreation. Retain open space, enhance recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.

Loss of open space and recreational opportunities and impacts to fish and wildlife habitat would occur. Planning and right-of-way studies would seek to lessen such impacts. Depending on the location of connections to existing transportation systems, the corridor could increase access to natural resource lands.

- 10) Environment. Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

The proposed WCC would adhere to all existing environmental protection regulations devoted to the protection of the environment throughout the planning, design, construction, and operation of the corridor. To the extent that congestion is reduced elsewhere, some elements of the environment may be benefited.

- 11) Citizen participation and coordination. Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.

As a state-wide project that influences a large segment of the state's population, significant effort would be needed to involve the public in all stages of the WCC corridor planning. Emphasis on early and comprehensive strategies to facilitate communication between the agencies and the public would assist in increasing the feasibility of the project.

- 12) Public facilities and services. Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

This planning goal is primarily devoted to new housing and structure developments, and is therefore not applicable to the WCC.

- 13) Historic preservation. Identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance.

The construction of the proposed WCC would adhere to all current regulations devoted to historic preservation. All available measures would be taken to site and construct the WCC and associated facilities away from those areas that have historical or archeological significance.

Given that these 13 planning goals of the GMA address separate issues, it would be difficult to suggest the consistency of the GMA in relation to overall corridor feasibility. In regards to those

planning goals that address the need to locate urban growth in areas served by existing facilities, it would be unlikely that the WCC would meet this particular goal without significant changes to regional and local comprehensive plans. However, in Planning Goal #3, the WCC would certainly be consistent with the need to develop multi-modal transportation systems for the state of Washington. The specific nature of each planning goal prevents a cumulative rating in terms of GMA consistency with the proposed WCC. However, the responses listed above following each of the goals provides a summary of the issues inherent in each specific goal and highlight which areas would need to be addressed prior to the development and construction of the WCC.

Siting of Essential Public Facilities

One of the primary regulations concerning the WCCs consistency with the GMA is addressed under RCW 36.70A.200, *Siting of essential public facilities – Limitation on liability*. It states, “The comprehensive plan of each county and city that is planning under RCW 36.70A.040 shall include a process for identifying and siting essential public facilities. Essential public facilities include those facilities that are typically difficult to site, such as airports, state education facilities and state or regional transportation facilities as defined in RCW 47.06.140....” In RCW 47.06.140, *Transportation facilities and services of statewide significance – Level of service standards*, the GMA includes the interstate highway system as part of the overall regional transportation system. The WCC would therefore fall under the definition of an essential public facility for the state of Washington and be subject to existing state and local regulations under the respective comprehensive plans of these areas. The following discussion summarizes the current process of siting essential public facilities for those counties where the proposed WCC would be located. In cases where a county specifically addresses the process for siting transportation corridor-related facilities such as highways, those regulations are provided in place of the general regulations. In addition, the list for each county is intended to highlight specific key regulations pertinent to the WCC. General regulations such as requiring environmental reviews, public participation, and adherence to existing land use policies are not included.

Whatcom County

The primary essential public facility regulations for Whatcom County include:

Highways and railroad tracks should be located:

- In a manner that minimizes or mitigates noise impacts to surrounding residential areas
- Outside of the Lake Whatcom Watershed, unless there are no viable alternatives.
- In a manner that allows continued fish passage beyond the road or railroad tracks or restores blocked passage.
- In a manner that avoids or mitigates wetland impacts.
- In a manner that minimizes impacts of additional impervious surfaces by treating stormwater runoff.
- In a manner that encourages a vibrant economy by facilitating the efficient movement of people and freight.
- In a manner that accommodates pedestrians, bicycles, and transit.

Major passenger intermodal terminals should be located in General Commercial, Tourist Commercial, Airport Operations, Urban Residential-Medium Density or industrial zones. Freight railroad switching yards and terminals should be located in industrial zones.



Skagit County

The primary essential public facility regulations for Skagit County include the following:

- The state is required to provide a justifiable need for a public facility and for its location in Skagit County based upon forecasted needs and a logical service area.
- The state is required to establish a public process by which the residents of the County and of affected and "host" municipalities have a reasonable opportunity to participate in the site selection process.
- Affected agencies and utilities shall be consulted in preparing recommendations and shall be given opportunities for effective review and comment.
- Notice and opportunity to review and comment on draft recommendations shall be given to adjacent jurisdictions.
- Proposals for siting essential public facilities shall contain a rationale for why that facility is needed.
- Recommendations for essential public facilities shall contain a rationale for why the facilities listed need to be located in Skagit County.
- When identifying essential public facilities with siting difficulties, the characteristics of the facility that make it difficult to site shall be indicated.

Impacts of the facility should be addressed including present and proposed population density of surrounding area, environmental impacts and opportunities to mitigate environmental impacts; effect on agricultural, forest, or mineral lands, critical areas, and historic, archaeological and cultural sites; effect on areas outside of Skagit County; effect on the likelihood of associated development; and effect on public costs, including operating and maintenance.

Snohomish County

The primary essential public facility regulations for Snohomish County include the following:

- Project sponsors must demonstrate the need for their proposed essential public facilities
- The propose project should be consistent with the sponsor's own long-range plans for facilities and operations
- The proposal must demonstrate the relationship of the project to local, regional, and state plans.
- The facilities service area population should include a significant share of the host communities population
- Sponsors shall submit documentation showing the minimum siting requirements for the proposed facility
- The project sponsor should search for and investigate alternative sites before submitting a proposal for siting review.
- The local review agency will examine the overall concentration of essential public facilities within Snohomish County to avoid placing an undue burden on any one community
- The proposal must include adequate and appropriate mitigation measures for the impacted communities

King County

The primary essential public facility regulations for King County include the following:

- King County and neighboring counties, if advantageous to both, should share essential public facilities to increase efficiency of operation.



- King County should strive to site essential public facilities equitably so that no racial, cultural, or socio-economic group is unduly impacted by essential public facility siting or expansion decisions
- The net impact of siting new essential public facilities should be weighted against the net impact of expansion of existing essential public facilities, with appropriate buffering and mitigation.
- Essential public facilities that directly serve the public beyond their general vicinity shall be discouraged from locating in the Rural Area.

Siting analysis for proposed new or expansions to existing essential public facilities shall also consist of the following:

- An inventory of similar existing essential public facilities in King County and neighboring counties, including their locations and capacities
- A forecast of the future needs for the essential public facility; an analysis of the potential social and economic impacts and benefits to jurisdictions receiving or surrounding the facilities
- An analysis of alternatives to the facility, including decentralization, conservation, demand management and other strategies
- An analysis of economic and environmental impacts, including mitigation, of any existing essential public facility, as well as of any new site(s) under consideration as an alternative to expansion of an existing facility;
- Consideration of any applicable prior review conducted by a public agency, local government, or citizen's group.

Pierce County

The primary essential public facility regulations for Pierce County include the following:

- An owner of a facility(ies) that believes its facility(ies) to be an essential public facility or a representative group may petition to be identified in the Pierce County Comprehensive Plan as an essential public facility in accordance with the procedures for comprehensive plan amendments.
- An analysis shall be conducted when a specific land use or category of land uses is proposed to be precluded from locating within Pierce County. The analysis must conclude that the land use is not an essential public facility or that the category of land use does not list a land use that is an essential public facility in order for the proposal to be approved.
- Recognition of existing essential public facilities.
- All applicable siting criteria listed under 19A.120.040 of the Pierce County Comprehensive Plan should be followed.

Thurston County

The primary essential public facility regulations for Thurston County include the following:

Classify essential public facilities as follows:

- Type One: Multi-county facilities. These are major facilities serving or potentially affecting more than one county. These facilities include, but are not limited to, regional transportation facilities, such as regional airports; state correction facilities; and state educational facilities.
- Type Two: These are local or inter-local facilities serving or potentially affecting residents or property in more than one jurisdiction. They could include, but are not limited to,



- county jails, county landfills, community colleges, sewage treatment facilities, communication towers, and inpatient facilities
- Type Three: These are facilities serving or potentially affecting only the jurisdiction in which they are proposed to be located.
- Essential public facilities shall not have any probable significant adverse impact on critical areas or resource lands, except for lineal facilities, such as highways, where no feasible alternative exist.
- Major public facilities which generate substantial traffic should be sited near major transportation corridors
- Applicants for Type One essential public facilities shall provide an analysis of the alternative sites considered for the proposed facility.

Lewis County

The primary essential public facility regulations for Lewis County vary by case⁴

Cowlitz County

Cowlitz County is not subject to essential public facility provision of the GMA.

Clark County

The primary essential public facility regulations for Clark County include the following:

- Government facilities may be established as provided in other land use districts through the procedures specified in the applicable district without plan amendment.
- The county shall in cooperation with other jurisdictions ensure that siting of regional facilities is consistent with all elements of the adopted county comprehensive plan, local city plan and other supporting documents
- The proposed project complies with all applicable provisions of the comprehensive plan, including countywide planning policies
- The proposal for siting of a public facility contains inter-jurisdictional analysis and financial analysis to determine financial impact and applicable intergovernmental agreement
- Needed infrastructure should be provided for
- Provision is made to mitigate adverse impacts on adjacent land uses
- The plan for the public facilities development is consistent with the county's development regulations established for protection of critical areas
- Development agreements or regulations are established to ensure that urban growth will not occur if located adjacent to non-urban areas.

Although the above lists are not exhaustive, they provide the primary requirements the WCC would need to meet as part of the siting of essential facilities process for those affected counties. Further analysis into the specific location of the corridor's components would yield additional information regarding other specific requirements under this process. It would be prudent for

⁴ The regulations in siting of essential public facilities in Lewis County are tied to individual zoning regulations that are specific to the type of facility being developed. The majority of these individual regulations are included in 'Title 17 Land Use and Development Regulations' of the County's Land Use Code."

WCC project sponsors to engage representatives of the jurisdictions in the planning process in order to maximize compliance with the provisions for siting essential public facilities.

More broadly, consideration should be given to amending the GMA to provide for a statewide process for identifying and siting essential public facilities of statewide significance. Such a process could provide for a uniform set of criteria and guidelines that recognizes the regional or statewide attributes of the project and the regional or statewide context with respect to land use and environmental constraints for siting such facilities. Further, such an approach could be considered in conjunction with an EFSEC-type review authority (as discussed previously under “Opportunities for an Innovative Review Authority.”)

Community/Regional Economic Impact Analysis of the WCC

The WCC would impact numerous communities of Western Washington in and around the proposed corridor area. These community-based impacts include measurable factors such as job opportunities, property values, economic development, and transportation costs. Equally important are impacts to more qualitative issues such as an individuals’ or communities’ quality of life, potential effects on small, vibrant communities, and changes to one’s sense of place in a community. This section provides an overview of these types of issues while identifying the anticipated effects on them from the proposed WCC.

Background

Washington State is the Pacific Northwest’s gateway to the Asia Pacific economies. With its world-class trade facilities—marine ports, airports, inter-modal yards, warehouse/distribution centers—enabling it to move vast amounts of goods, services, and people, Washington State transportation services employ significant number of workers and create substantial wealth for the state. Nearly 100,000 transportation workers with wages and salaries of over \$4.5 billion generate \$6.6 billion of gross state product in Washington.

Washington State competes with other West Coast gateways (particularly, Long Beach-Los Angeles; Oakland-San Francisco; and Vancouver, BC) for business and jobs. Puget Sound facilities, worksites, and residents are connected by an increasingly congested urban transportation network. Addressing this rising congestion is one of the paramount economic challenges facing the region today as the existing transportation infrastructure capacity is insufficient to sustain future regional economic growth. Furthermore, gridlock damages international competitiveness for regional companies and the quality of the local environment.

Forecasts for continued population and economic growth in Washington State show increasing pressure on the state’s ground transportation system. The growth of road and rail traffic (multi-modal) is expected to be particularly strong for commercial movements. These include movements that serve freight cargo moving to and from marine ports, airports, industrial parks, warehouse/distribution centers, and international border crossing facilities. Future congestion delays and capacity constraints will be of particular concern to commercial land traffic. For example, projected road and rail demand is expected to outstrip capacity within the overall transportation system. Severe future travel times and costs are expected unless substantial investments are made to upgrade and expand many aspects of the region’s transportation infrastructure.

The marine ports, airports, multimodal facilities and warehouse/distribution centers of Western Washington provide a key strategic link in the logistics chain between North America and Asia Pacific economies. A tremendous amount of cargo and numbers of passengers are transported throughout the region each year. The Ports of Tacoma and Seattle—the number three load center in North America—handled a combined 3.2 million containers of cargo in 2003, much of the cargo passing through the region. At the same time, the Seattle-Tacoma International Airport serviced 26.8 million passengers. In addition, the region’s burgeoning cruise ship industry expects that 550,000 passengers will embark on a regional Alaska cruise this year.

Overview of Socioeconomic Effects

The Washington State Department of Transportation has defined the concept of the Washington Commerce Corridor (WCC) as a multi-modal infrastructure system that would provide a blueprint for future investments in new infrastructure for the movement of goods, services, and people. It is intended to be an efficient and safe system of routes linking facilities, businesses, industrial and commercial areas, and residents to the state’s major trade routes by sea, air, rail, pipeline, power line, and road.

The Washington Commerce Corridor is conceived as a north-south corridor that will facilitate the movement of freight, goods, people, and utilities. The WCC is preliminarily situated in the valley east of I-5 and west of the Cascade Mountains. It extends about 280 miles from the Canadian border in the north to the border with Oregon in the south. The corridor will add capacity for long-haul trucking freight and passenger auto travel as well as provide for freight and passenger rail, public utilities and other facilities. Construction of the corridor would require about \$24.4 billion (in 2003 dollars), including \$9.8 billion for each of the auto and truck toll highways, \$3.9 billion for the rail facilities, and about \$900 million for the remaining pipeline, power transmission lines, and trails. Land acquisition associated with right-of-ways will cost an additional \$16.4 billion.

Certainly, these costs are very high. However, they would be offset somewhat by the economic benefits received from investing in the Washington Commerce Corridor. Failure to invest in the performance and capacity of the region’s infrastructure, facilities, and services will lead to significant losses of business activity as travel times and costs for commercial shipping are increased. Investing in the Washington State Commerce Corridor will help to mitigate these losses.

While the full social benefit of investing in the WCC is not known at this time, it may be construed as the sum of the net economic impacts plus the additional value of time savings not included in gross state product calculations. It is expected that this larger benefit measure would be in the hundreds of billions of dollars.

Planning for the Washington Commerce Corridor would need to consider its social and economic effects. Comprehensive socioeconomic assessments are inherently complex and should identify:

- The benefits of users of the proposed corridor and its effects on communities
- Numerous effects that interact (some of which are positive while others are negative), even among residents within the affected region.



- Various population groups within the region that may be affected quite differently in terms of mixes of socioeconomic effects
- People's preferences and opinions, so what may be acceptable or even desirable to some may in fact be unacceptable to others.

Community Impacts

The construction of the Washington Commerce Corridor would likely have both positive and negative impacts on the socioeconomic fabric of nearby communities. Accessibility along the new commerce corridor will create a number of social and economic impacts on the surrounding communities.

Social impacts to be considered in the context of the Washington Commerce Corridor include community cohesion, relocation impacts, the impacts on residential neighborhoods related to the loss of land and diminished access, and "barrier" effects. Direct community impacts will depend upon the location of the final alignment and the connections and the distance between the community and the commerce corridor. Travel patterns, accessibility, mobility, social cohesion of established neighborhoods, and economic viability of established businesses/enterprises may all be indirectly impacted by the commerce corridor.

Community cohesion refers to the attitudes and feelings of the residents of a community or geographic area. Ties can be somewhat amorphous and may change over time. New residents to a community can feel differently than longtime residents. Traditions have a significant role in determining and maintaining community cohesion. Rural areas have a different sense of community than more urban or suburban neighborhoods. Many of these rural places derive their sense of place more from geographic isolation or the need to be near natural elements than from a conscious desire to live in proximity to others. Accordingly, it would be expected that there would be reduced community cohesion at some locations due to the project.

Relocation impacts associated with the Washington Commerce Corridor will vary according to final location of the right-of-way. Relocations of both residences and businesses are anticipated. Ideally, all of the relocations should be accomplished within their respective area, if not within their respective community. If residential displacements are relocated into the same general area, the indirect effects to other businesses by the displacement of their customer base are expected to be minimal. The extent of relocation would have a direct bearing on the overall feasibility of the WCC project.

The adverse impacts caused by commercial displacements are expected to be minimal, especially when compared to the anticipated beneficial industrial and commercial economic impacts from the project.

The corridor would likely create a barrier effect in several respects. First, it may divide properties, rendering the properties useless or diminishing their current use.. For example, the corridor could conceivably take farmland out of production and create a barrier to efficient movement of farming equipment between fields that have been separated by the corridor. In addition, the corridor could inhibit localized movement of people and commerce. Finally, neighborhoods and areas such as public school districts could be separated. This could result in reduced community cohesion and lowered quality of life.



Regional Economic Effects

Commerce corridors do not automatically create private sector investments and jobs. Commerce corridors do, however, create opportunities for economic development in concert with other factors. These factors include, but are not limited to, local land use regulations, availability of appropriate land and other infrastructure, a labor force appropriate for the new/expanded industries under consideration, and other local factors that fall under the categories of “quality of life” or “business climate.”

The Washington Commerce Corridor could result in the following changes:

- With development of the Washington Commerce Corridor and associated gains in freight efficiencies, industry may be attracted to the project study area over other locations elsewhere in Washington and the Pacific Northwest.
- The study-area could gain a greater share of national industry with development of the commerce corridor.
- New jobs and new businesses might be expected if land along the commerce corridor were developed.

One of the primary considerations in undertaking this preliminary analysis is to note that the commerce corridor could have limited-accessibility. Preliminary conceptual designs identify only a few east-west connections for the north-south commerce corridor. Residential growth goes in concert with industrial growth and new service connections generate commercial growth. Although the commerce corridor is not conceived as a freeway, it is likely that corridor connections will exhibit similar attractive features for highway-oriented retail commercial services.

A limited access corridor underscores the most difficult aspect in analyzing the community-specific economic development impacts of a corridor investment—assessing the potential for business attraction and retention. The WCC could potentially improve access to markets for existing firms, as well as encourage new firms to locate along its alignment. Both actions would enhance business attraction and retention, as well as possibly help surrounding communities to grow. With limited access in the form of east-west connections, economic benefits would be geographically focused on those areas and communities proximate to these nodes. It is anticipated that commercial and industrial development supporting surrounding residential growth and freight movement would be attracted to these interchanges. For those areas and communities located near the corridor but with no proximate access, the potential exists for no beneficial development (at best) or adverse impacts on existing residences and businesses (at worse).

In general, the main benefit of regional transportation infrastructure system changes is improved commerce for all uses. Economic effects that could occur include impacts on traveler costs, economic development, land and property values, construction effects on businesses, and linkages between residences and jobs.



Changes in traveler and shipper costs

Transportation system changes may significantly affect travelers, presumably by decreasing the amount of time required to reach a destination. Projects that aim to reduce congestion often provide significant time savings for travelers and shippers resulting in improved regional commerce for all uses. Likewise, changes often improve the safety of system users. There are a variety of methods for assessing how a transportation change affects travelers and shippers, including: gravity models, analyses of travel time savings, safety effects, geographic information systems (GIS), changes in vehicle operating costs, and comprehensive economic models. Once additional specificity is provided (e.g., location) on the commerce corridor, these models will assist analysts and policy makers in evaluating socioeconomic impacts by community and area.

Economic Development

Generally, policy makers are interested primarily in expanding jobs and income within a particular corridor or region. In such cases, it may not matter whether these impacts are generative (expansion through productivity improvements) or distributive (transfer of investment from outside areas to the study area). Many different methods have been employed to predict the economic development benefits of transportation investments. In general, the economic development analysis compares a “no-build” or status quo base case scenario to one or more transportation scenarios. Impacts are often forecast by both construction and operation phases outward to 20 years into the future. From a socioeconomic perspective, analysts and decision-makers are interested in the economic development impacts of a transportation infrastructure project measured in terms of job creation and changes in personal income or wages and salaries, changes in the type of jobs available, changes in property values, and net changes in business activity and investment in the commerce corridor.

There are many different methods employed to predict the economic development benefits of infrastructure investments. Analysts and decision-makers are interested in the economic development impacts of infrastructure projects measured in terms of job creation, labor income (wages and salaries, proprietor income), and business activity. The approach most often used to forecast employment, income, and business activity impacts of infrastructure investments are input-output (I-O) models. In general, I-O models contain a wealth of information on inter-industry relationships, including accounting tables for each industry that describe the amount of input the industry requires from other industries to produce one unit of output and the amount of production of each industry for various final demands. Using purchase and sales data, multipliers are calculated to forecast impacts as dollars spent on the infrastructure investment project ripple through the regional economy.

Construction of the Washington Commerce Corridor could provide a significant economic stimulus for the entire corridor region. Given an “order-of-magnitude” construction cost estimate of \$24.4 billion (alternative 1) over an estimated construction period of 20 years, the forecasted economic impacts are listed in Exhibit 3-14.

Exhibit 3-14: Estimated Economic Impacts of Constructing Washington Commerce Corridor

Category	Direct	Total	Multiplier
Jobs	9,000	16,300	1.81
Output (<i>Millions of 2003 \$</i>)	\$1,220	\$1,980	1.62
Labor income (<i>Millions of 2003 \$</i>)	\$480	\$770	1.60

Sources: Huckell/Weinman Associates, Inc.; IMPLAN

In this “first-order” impact analysis of WCC construction, the direct jobs created within the construction industry number 9,000, with additional jobs created in other linked sectors totaling 7,300. Thus, each WCC construction job is estimated to support another 0.81 jobs within the region. The total estimated jobs generated are considerably less than the 35,000-42,000 estimated jobs associated with each \$1 billion spent on construction and maintenance of the nation’s transportation infrastructure (Buechner, 1999). These generative impacts provide little insight, however, as to how and where these jobs are distributed within the affected corridor region.

Land and property values

Transportation system changes may affect property values in a number of ways. Changes may provide improved access to an area, thereby increasing nearby property values. From this perspective, transportation projects may serve as catalysts to comprehensive regional reinvestment projects with the expectation that they will increase property values. On the other hand, properties adjacent to projects may decline in value as a function of their proximity and/or accessibility to the improved infrastructure, or as a result of a new undesirable visual feature in the environment. Most property value changes represent economic transfers—increases in one location are offset by reductions elsewhere. Keeping this balanced perspective may lead mixed results, including for certain areas the potential for no new increase in overall property values from the project.

Effects on competitiveness of businesses

The Washington Commerce Corridor, like many major construction projects, may disrupt routine business activity. Business owners may suffer customer losses as access to their business becomes restricted, which in turn will affect the number of employees that business requires. In addition, customers who find alternative businesses during the construction period may not necessarily return once construction is completed.

Once the WCC is completed, the improved infrastructure is predicted to enhance the competitiveness of existing businesses and communities within Western Washington.

Linkages Between Residences and Jobs

Historically, there has been a spatial separation of jobs and housing within the region. Affordable housing is often not located near jobs, causing many people to commute long distances to their work places. Most transportation infrastructure enhancements have the potential to alleviate the negative effects caused by this spatial mismatch between jobs and housing. Given the orientation of the Washington Commerce Corridor to freight movement, there are a limited number of access points affecting the personal commute.



Environmental Justice

Environmental justice is defined as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal and commercial operations or the execution of federal, state, local and tribal programs and policies.”

Federal agencies or projects involving federal monies are required to consider impacts on minority and low-income populations (Executive Order 12898). A low-income population is generally defined by annual statistical poverty thresholds developed by the U.S. Bureau of the Census, and secondarily by state and regional definitions of poverty. The U.S. Bureau of the Census listed \$9,359 as the poverty threshold for a one-person household in 2002, and \$12,047 for a two-person household.

Environmental justice represents a similar line of inquiry to the distributional effects of the Washington Commerce Corridor. In general, the generative effects of jobs, incomes, and business activity are less difficult to predict and measure. More problematic are the project-related impacts distributed on minority or low-income populations within the Washington Commerce Corridor region. Even a very small minority or low-income population affected by a commerce corridor alternative does not eliminate the possibility of disproportionately high or adverse effect of the proposed commerce corridor.

The purpose of such an analysis is to assess whether there will be a disproportionately high and adverse impact on a low-income and minority population resulting from the Washington Commerce Corridor. Such an analysis must first identify low-income and minority populations related to the engineering, environmental, and planning activities impacting those populations. An evaluation and analysis would assess whether these target populations would receive a disproportionate share of the adverse impacts from the proposed route of the commerce corridor. Although a first level screening of environmental justice is beyond the scope of this concept feasibility study, it is expected that potential environmental justice impacts would be minor with the possible exception of effects on Native Americans.

Conclusions

The proposed WCC would be a significant alteration of the current transportation system in the State of Washington. While it has the potential to considerably improve the movement of freight and people across the state, there would be extensive impacts to existing environmental and community resources as a result of such a project. As discussed, these potential impacts are directed upon multiple issues and resources in both the natural environment and the communities in and around the proposed corridor area. These potential impacts play a significant role in determining the overall corridor’s feasibility. They warrant further study to increase the overall understanding of the full potential effect of the WCC.